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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,403	03/02/2004	Dieter Maur	0275M-260DVD	2537
27572	7590	02/08/2006	EXAMINER	
HARNES, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			GARLAND, STEVEN R	
			ART UNIT	PAPER NUMBER
			2125	

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/791,403

Applicant(s)

MAUER ET AL.

Examiner

Steven R. Garland

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 33-35 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-26 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-11 and 27-31 is/are rejected.
- 7) ☒ Claim(s) 3,32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1-35 are pending.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/2/05 has been entered.
3. Newly submitted claims 33-35 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claims 33-35 are directed to a different invention in the form of a method of riveting in which different sized rivets are automatically fed to a position aligned with a driving member and then a selection is made between the rivets as to which rivet is actually fed to the position. None of the previously examined claims require such a combination of features (feeding different sized rivets and selecting between them), and further the rivets are not limited to self-piercing rivets as in the other elected claims but can be any type. Claims 33-35 also fail to recite the use of an electric motor to drive the riveter as in the claims elected by original presentation. Also note MPEP section 818.02(a) in regards to original election in an RCE application

Claims 22-32 are directed to the originally elected invention and will be examined along with claims 1-21.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 33-35 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1,2, and 4-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, step (m), it is unclear as to what is displayed. A comparing operation is performed in this step between the actual and reference values, but the phrase "displaying actual sensed values to previously stored reference values " in this step is unclear. It is uncertain if both actual and reference values are displayed, if only one type of the values ( actual or reference) is displayed or if the results of the comparing operation are to be displayed.

Claims 2, and 4-6 fall with the parent claim.

In the rejection which follow it is assumed that the display is for the operating data.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1,4-11, and 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the article " Pierce-&-Roll riveting- the alternative to spot welding" by Edwards in view of Speller, Jr. et al. 5,829,115 ( both previously cited ).

Edwards teaches pierce and roll riveting in which the self piercing rivet does not break through the lower sheet, use of a solid head being pushed by a plunger ( page 25, bottom left hand side figure ), that the riveting process can be used on various types of sheets such as aluminum, and be used in various industries such as the automotive industry. Page 24, first column, and the figure. Edwards on page 24, column 2 teaches that the process must be precisely controlled so that a good joint is formed. Edwards on

Art Unit: 2125

pages 25-26 teaches feeding a rivet to the riveter which can be mounted on a robot, that the applicator can have a C-frame, use of a punch and die, clamping the workpiece, aborting the cycle upon an error, checking plunger position to insure that it is correct when the rivet arrives, checking to insure that the plunger is at the correct position at the end of its stroke, monitoring displacement of the plunger ( which gives an indication of the dimension of the rivet height ), and use of a computer. Edwards further teaches ( in the box on page 24 ) that the head of the rivet can be flush ( which if the head is driven flush inherently requires that the punch be stopped before the head is driven to far on the punch side surface ); that the rivets can be used to join various materials such as aluminum, composites, etc. ( page 24, col. 1); moving the nose down to clamp the workpieces ( note the figures on page 25 showing the nose with the plunger being within the nose); generating an fault (error) signal (page 26, column 1); and generating a display of operating conditions ( page 26, column 1 ). See pages 24-26 and the figures.

Edwards however does not use an electric motor but instead uses a hydraulic applicator or expressly state that automotive members made of aluminum are joined. Edwards does teach use of the system in the automotive sector as noted above.

Speller, Jr. et al. teaches the use of an electric motor driven rivet applicator which converts a rotational motion into a linear motion in a non-fluidic manner. Speller teaches the desirability of replacing a hydraulic riveter with a quieter, faster, and more repeatable electric rivet applicator. Col. 1, lines 20-27 and col. 2, lines 36-45. Speller teaches a non hydraulic riveter operated by an electric motor and also teaches that the

Art Unit: 2125

motor can be connected through a belt and transmission if a large riveting force is required or use of a threaded spindle ( figure 1 ). See figure 4 and col. 5, lines 49-67. Speller further teaches that the use of an electric motor driven riveter allows close control throughout the riveting process by the use of various types of sensors including force, distance, velocity, monitoring the motor and closed loop control ( real time sensing and control of linear motion). Speller further teaches that the motor can be mounted either offset or in axial alignment with the punch, clamping the workpiece, that the motion profiles can be programmed, use of computer programming, specifying a velocity for a particular motion, use of specific instructions for both instantaneous position and velocity ( displacement associated with speed ), and use of a C-frame (col. 10, lines 45-55). See the abstract; figures; col. 1, lines 1-57; col. 2, lines 14-45; col. 3, lines 27-60; col. 4, lines 4-60; col. 5, line 17 to col. 6, line 3; col. 6, lines 34-54; col. 7, line 34 to col. 8, line 36; col. 9, line 4 to col. 10, line 7; col. 10, line 45 on.

It would have been obvious to one of ordinary skill in the art to modify Edwards in view of Speller to use an electric motor driven rivet applicator along with its improved closed loop control system in which actual measurements are compared to desired measurements. This would provide a quieter, faster, and more repeatable pierce and roll riveter at a reduced cost.

Further it would have been obvious to one of ordinary skill in the art to modify Edwards and Speller to join aluminum automotive members which are not easily welded and with the additional benefit of retaining a protective surface as taught by Edwards on page 24, column 1.

Edwards and Speller however do not expressly teach stopping (de-energizing) the electric motor upon an error condition. Edwards however teaches stopping the hydraulic applicator upon an error condition starting on page 25, middle column. It would have been obvious to one of ordinary skill in the art to modify Edwards and Speller to stop the electric motor driven applicator in case of an uncorrectable error or an error which outside of bounds to prevent either damage to the machine or to prevent generating defective work pieces.

10. Claims 13-26 are allowed.

11. Claims 3 and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claim 2 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

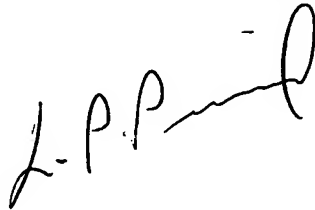
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven R. Garland whose telephone number is 571-272-3741. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2125

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "S.R.G.", with a stylized flourish at the end.

*S.R.G.*  
Steven R Garland  
Examiner  
Art Unit 2125

2/2/06

LEO PICARD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100